

City of Alexandria, Virginia

# Ben Brenman Pond & Lake Cook Stormwater Retrofit Projects

Parks and Recreation Commission Meeting  
July 21, 2016



# Agenda



- Background Information
- Chesapeake Bay Stormwater Cleanup Mandate
- Ben Brenman Pond Retrofit 10% Design
  - Schedule / Next Steps
- Lake Cook Stormwater Retrofit Design
  - Schedule



# The Stormwater System



- Stormwater is NOT treated
- Everything that flows into the stormwater system goes into local waterbodies



# Acres Requiring Treatment for Chesapeake Bay Cleanup



Permit Cycle	TN (lbs)	TP (lbs)	TSS (lbs)	Approx. Acres
First MS4 Permit Cycle Target (5%)	380	50	43,097	~120 - 300
Second MS4 Permit Cycle Target (35%)	2,659	352	301,678	~660
Third MS4 Permit Cycle Target (60%)	4,558	603	517,162	~1,450
<b>Total Reduction Target</b>	<b>7,597</b>	<b>1,005</b>	<b>861,937</b>	<b>~2,405</b>

# Lake Cook & Ben Brenman Pond Goals and Project Benefits



- Upgrade the lake / pond to better treat stormwater runoff to meet Chesapeake Bay Cleanup Mandates and protect downstream waterways
- Enhance amenities, new trail connections
- New landscaping to discourage geese and provide habitat for riparian birds and animals
- New educational signage with ecological information around trail



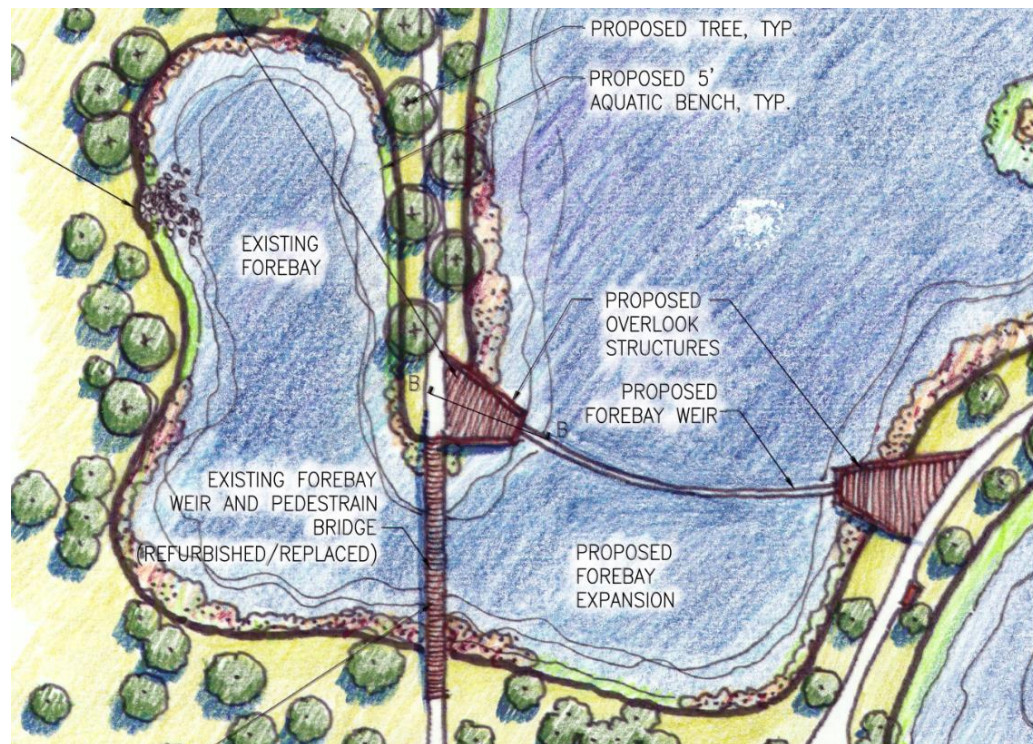




# Ben Brenman Pond Sediment Forebay



- Create new weir to expand forebay
- Create new overlook structures at the weir
- Replace existing pedestrian bridge

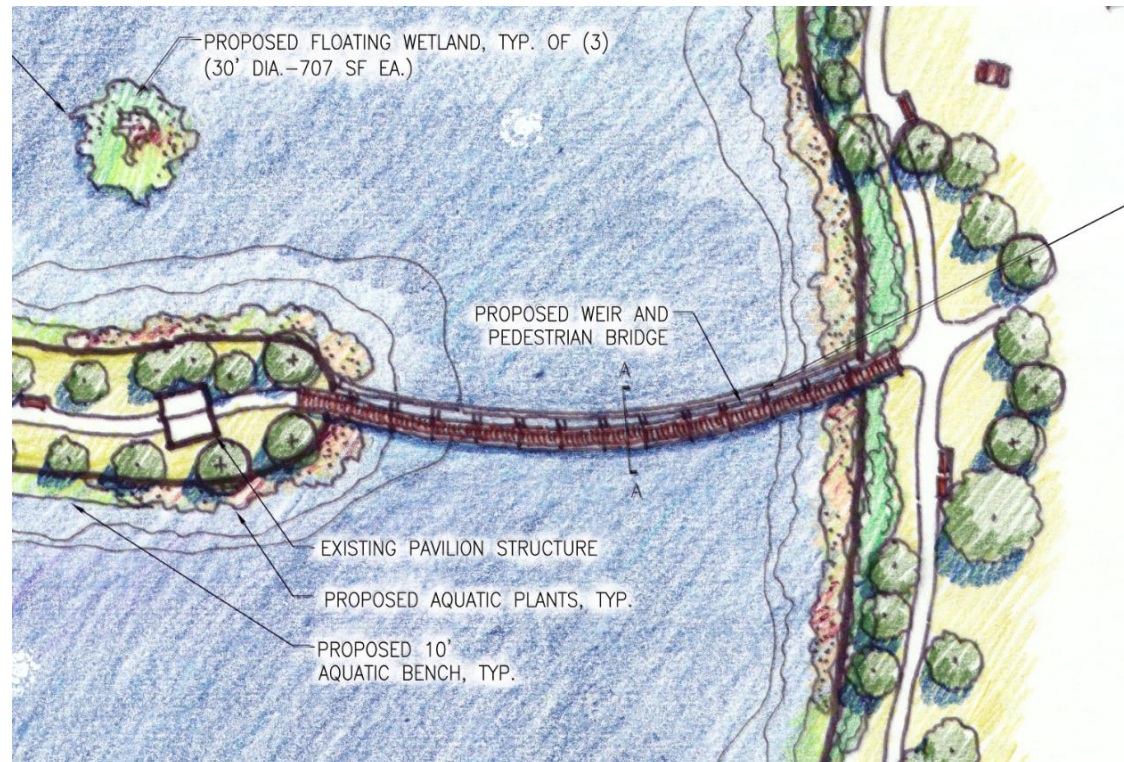


# Ben Brenman Pond

## New Weir and Boardwalk



- New weir to create multiple cells
- New pedestrian bridge / boardwalk
- Existing pavilion / gazebo will remain
- Wildlife opportunities on weir





# Ben Brenman Pond Wetland Vegetation



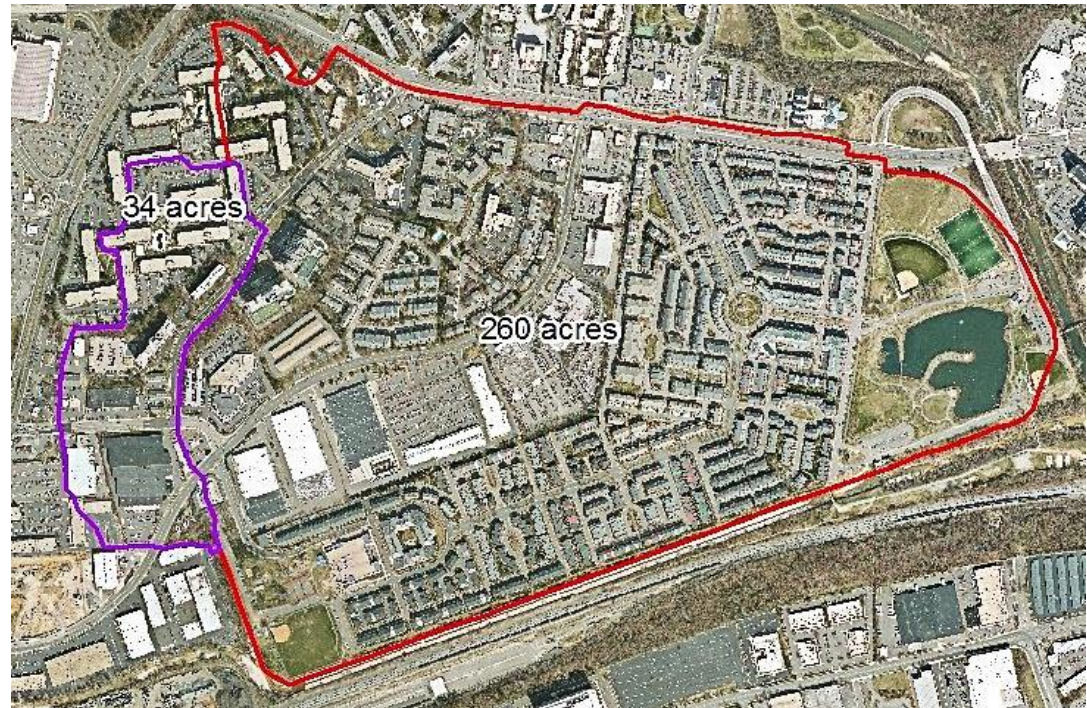
- New aquatic bench around the pond
  - Discourage geese
  - Safety
- New floating wetland islands
- Wildlife opportunities with new vegetation



# Armistead Boothe Park Diversion



- “First flush” diversion to add 34 acres of treatment area to pond
- Continue to model storm sewer system to ensure adequate capacity



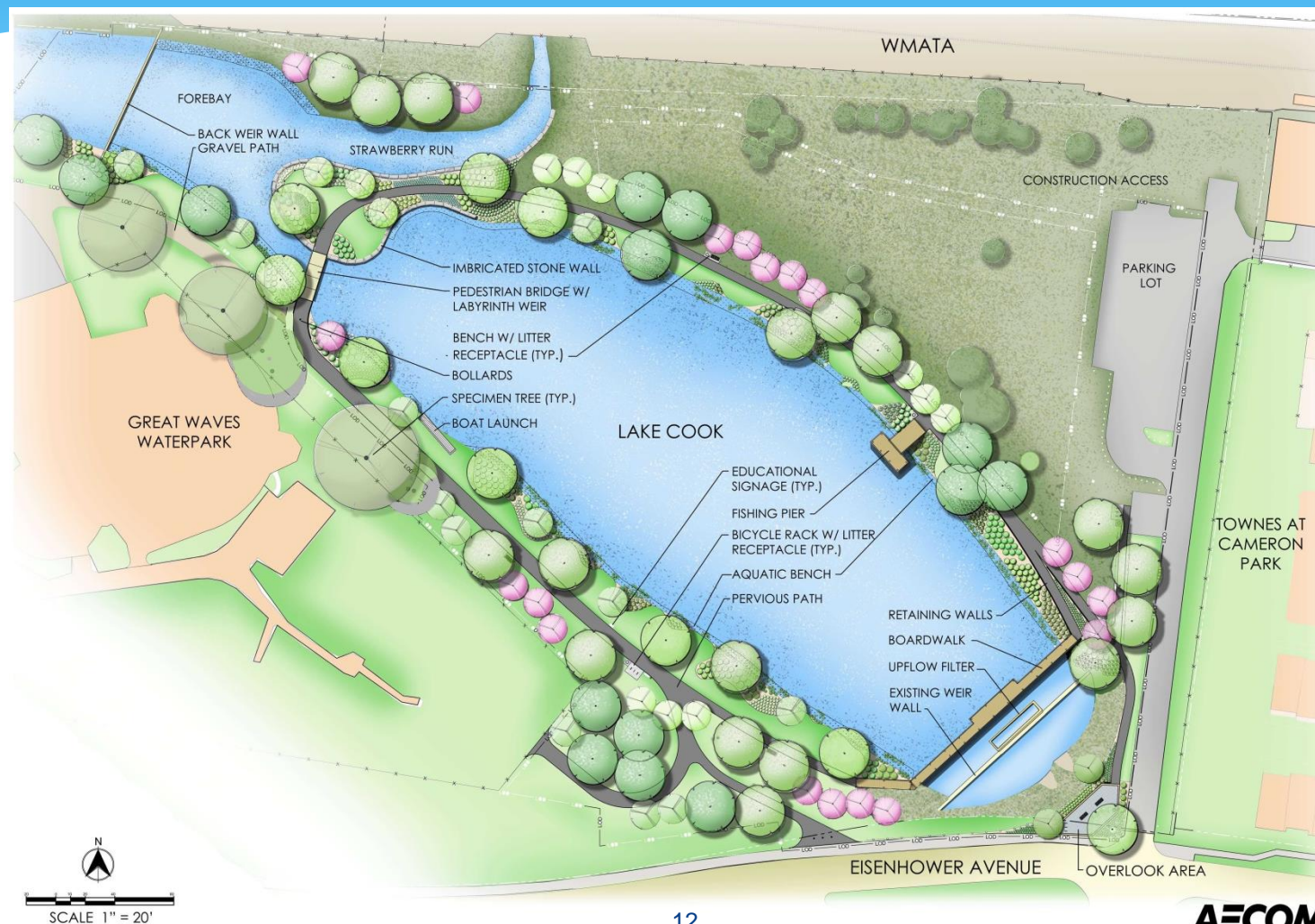
# Ben Brenman Pond Schedule / Next Steps



- August 2016 – 30% Design Submittal
- September 2016 – Public Meeting
- Spring 2018 – Final Design
- Fall 2018 – Construction Scheduled to Begin
- Spring 2019 – Construction Complete



# Lake Cook 100% Design Plan



# Lake Cook Pedestrian Connections



- Circular path around lake, pervious asphalt
- Pedestrian bridge with weir at forebay
- Pedestrian boardwalk at upflow filter

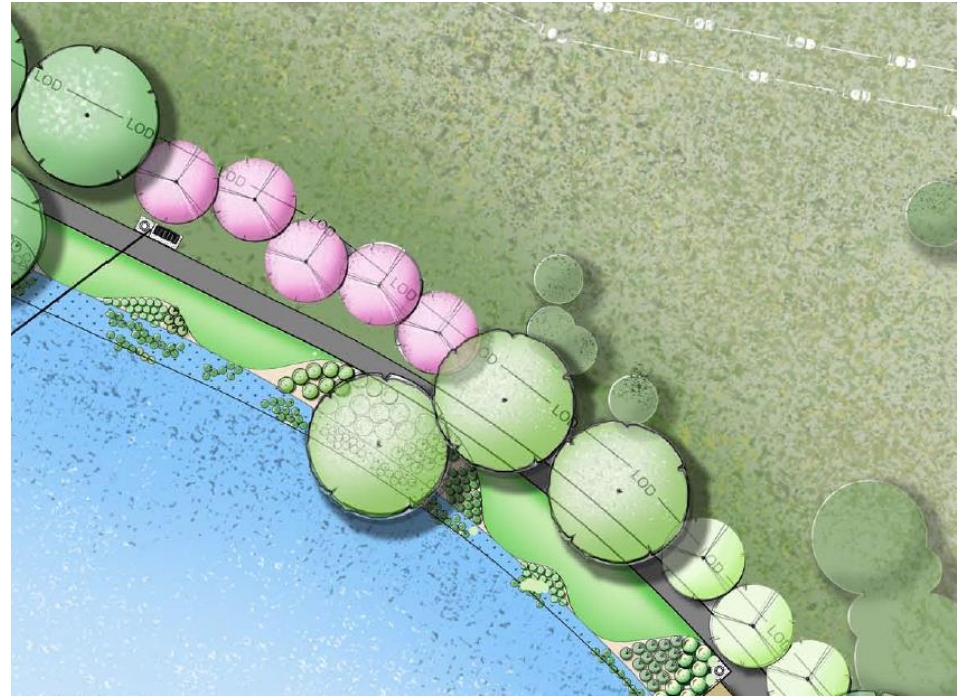




# Lake Cook Landscape Plan

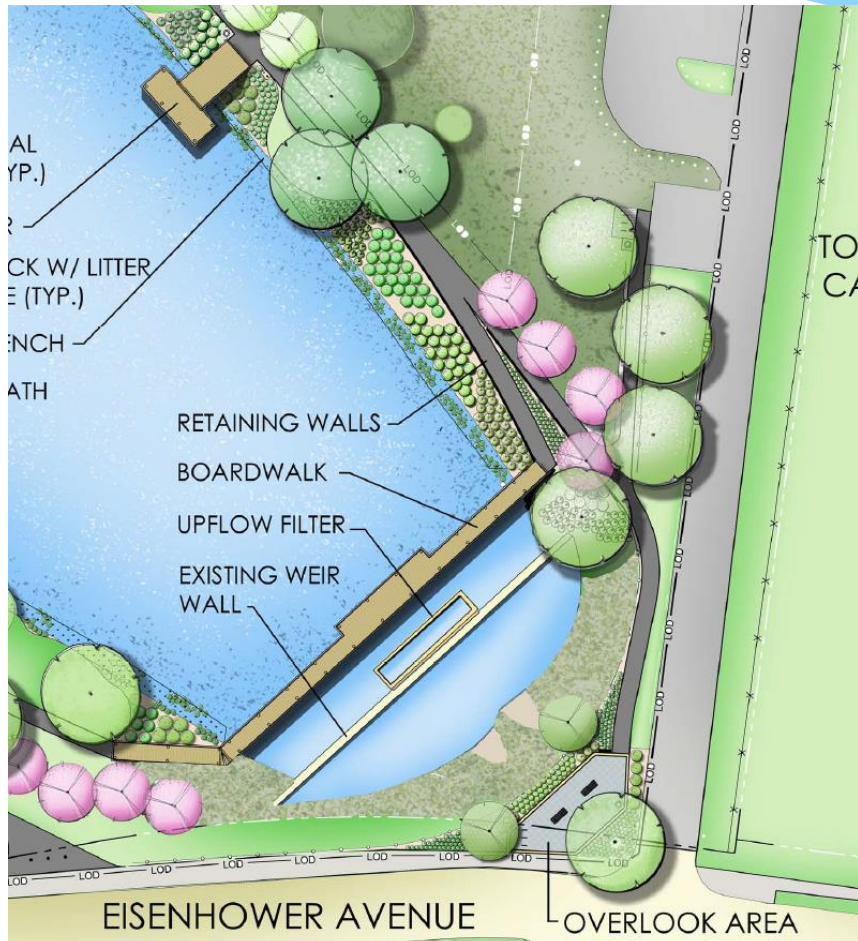


- Aquatic bench around lake
- Specimen trees are preserved
- Native species
- Wildlife opportunities with new vegetation
- Wildlife management plan





# Lake Cook Additional Amenities



- Overlook area along Eisenhower Avenue
  - Cook Memorial
- Expanded fishing pier

# Lake Cook Schedule / Next Steps



- July 22, 2016 – 100% Design Submittal
- August 2016 – Bid Documents Submittal
- November 2016 – Construction Scheduled to Begin
- Spring 2017 – Construction Scheduled to be Complete

City of Alexandria, Virginia

# Thank You

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